

R E M A R K S

In response firstly to the objection to claim 7, this claim has been amended to depend from claim 6, to avoid the phrase objected to by the Examiner as not appropriate grammar and to correct line 4 as suggested.

With respect to the rejection of claims 1 - 5 under U.S.C. 102(b) as being anticipated by Howard, the Examiner is courteously requested to reconsider this rejection in the light of the following comments.

Claim 1 recites a building component comprising lengths of lumber assembled in a frame and

“a reinforcement sheet of solidified fiber reinforced composite material adhered to said lumber lengths and forming a skin extending across said frame between said lengths of lumber so as too resist distortion of said frame by racking forces exerted on the frame.”

Such a building component has a number of advantages over comparable prior art building components.

For example, the present building component can be manufactured off site for subsequent transportation and use at a building construction site.

In use, the incorporation of a skin covering the frame and composed of fiber reinforced composite material substantially strengthens the component and, in particular, reinforces the frame against racking forces.

Since this reinforcement skin is adhered to the lumber frame, the component, in use, acts as a uniform structural system.

The composite material skin may be exposed to the weather without additional measures.

The form of construction taught by Howard does not provide any of these advantages.

In this connection, it is noted that the Examiner has not commented specifically on why she considers claim 1 to be anticipated by the Howard reference and, in particular, has not been able to identify in this reference any disclosure of "a reinforcement sheet of solidified fiber reinforced composite material"

With respect to claim 2, the Examiner has referred to a "reinforcement sheet of solidified fiber reinforced composite material, 20". However, this is not understood, because reference numeral 20 in this reference does not indicate any such reinforcement sheet but merely indicates "a mesh 20, which may be common chicken wire or other wire mesh" (col. 2, lines 19, 20).

In fact, all that this reference discloses, in this respect, is merely wire mesh stapled or otherwise secured to the outside of the frame, wooden stringers and foam insulation panels 24 stacked outside the wire mesh and an inside surface finished by a layer of plaster 27. There is no suggestion anywhere in this reference of the above reinforcement sheet taught by the present invention and therefore it is respectfully submitted that this reference in no way anticipated the features recited in claim 1.

Furthermore, it will be readily apparent that the reinforcement referred to in this reference as being provided by the wire mesh merely supports the plaster layer, which of course would offer almost no resistance to racking forces, even when provided on the wire mesh, which obviously would offer negligible resistance to such forces.

On any reasonable reading of this reference, it is clear, in particular from the description of the wire mesh as "forming an uneven, sinuous surface" (col. 1, line 37), that the plaster layer and wire mesh are not intended in any way to resist racking forces. In this connection, it is pointed out that the form of construction taught by this reference is post and beam construction, which does not rely on wall panels for reinforcement.

It will also be apparent that the form of construction taught by this reference does not provide any of the above-mentioned advantages of the present invention.

However, since this reference is not cited on the ground of obviousness against claim 1, but only as an anticipation, it is believed that further discussion of the advantages is not required.

Claims 2 to 5 each depend from claim 1 and are therefore likewise not anticipated by the Howard reference.

Referring now to the rejection of claims 6-11, 13 and 14 under 35 U.S.C. 102(b), claim 6 has hereby been amended to recite the use of a - - fiber reinforced composite coating material - - to form a skin - - of fiber reinforced composite material - -, and it is therefore respectfully submitted that this amended claim, and 7 - 11, which depend from claim 6, are not anticipated by this reference for the reasons discussed above with respect to claim 1.

Claim 13 also recites the use of a fiber reinforced composite material and therefore claim 13 and also claim 14, which depends from claim 13, are not anticipated by the Howard reference.

In the official action, claims 15 - 18 were rejected under 35 U.S.C. 103(a) as unpatentable over the Howard reference in view of the Hiesberger reference.

By the present amendment, claims 15 and 16 have been combined as new claim 22 and claims 19 and 20 have been combined as new claim 23, with corresponding amendment of the dependencies of claims 17, 18 and 21.

New claim 22 therefore recites a corner connector with lateral and vertical flanges extending from a box-shaped section and lengths of lumber having ends in abutment with the box-shaped section.

This has the advantage that vertical and horizontal loads acting on the lengths of lumber are not applied from one piece of lumber to the other but are applied, by the abutment of the ends of the lumber, to the box-shaped section of the metal corner connector.

This difference is significant, because it is well known that when corner studs are abutted directly to bottom plates, they load the bottom plates in a direction perpendicular to the grain of the bottom plates. Consequently, in repetitive loading the upper studs will embed themselves in the bottom plates, thus indenting the bottom plates and allowing deformation of the building structures and consequently causing decreased wall structural capacity.

This disadvantageous effect is worsened by the Hiesberger connector, in which lateral pivotal deflection of the stud will force the edge of the bottom flange 210 into the bottom plate.

Further, the Hiesberger reference completely lacks the concept of the box-shaped section and lumber ends abutting such a section. The Examiner has suggested that this reference shows a box-shaped corner connector, but has not shown how the lumber ends could possibly abut such box-shaped structure, as taught by the present invention, and it is respectfully submitted that such an arrangement would clearly be impossible with the corner connector of this reference.

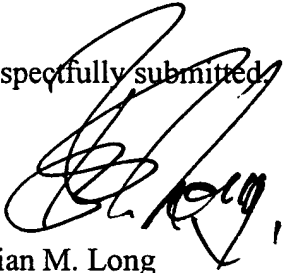
This opportunity has been taken to add to the application new claims 24 - 28 , which recite the features of a combination employing the present corner connectors and the connector per se, and it is respectfully submitted that these claims are patentably distinguished over the Hiesberger reference for the same reasons.

It is therefore believed that the present amendment overcomes the objections raised in this official action and the application is now in order for allowance.

Early action to that end is accordingly courteously requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current response. The attached page is captioned **"Version with markings to show changes made."**

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'B. Long', written over the words 'Respectfully submitted'.

Brian M. Long  
Reg. No. 28,815

LONG AND CAMERON  
1401 - 1166 Alberni Street  
Vancouver, BC  
Canada V6E 3Z3  
Tel: (604) 687-5513  
Fax: (604) 687-5756

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Claims**

Claims 15, 16, 19 and 20 have been cancelled.

Claims 6, 7, 17, 18 and 21 have been amended as follows:

6. (Twice Amended) A method of making a building component, which comprises the steps of connecting together a plurality of lengths of lumber to form a frame, forming at one side of said frame a layer of a fiber reinforced composite coating material and causing the coating material to solidify in adherence with said lumber into a skin of fiber reinforced composite material extending across said frame between said lengths of lumber so as to reinforce said frame against racking.
7. (Twice Amended) A method as claimed in claim [7] 6, which includes placing a mesh of aide fiber material at [at least] one side of said frame prior to the step of forming of said layer and subsequently coating said mesh with said coating material during the forming of said layer so as to cause said coating material to impregnate said mesh and to adhere to said heat insulating barrier and said lumber.
17. (Twice Amended) A building component as claimed in claim [16] 22, wherein said vertical flange extends between a pair of said lengths of lumber and said lateral flange is one of a pair of lateral flanges which fit snugly onto horizontal ones of said lengths of lumber.
18. (Twice Amended) A building component as claimed in claim [16] 22, further comprising a further vertical flange extending along one longitudinal side of said first-mentioned lateral flange.

21. (Twice Amended) A method as claimed in claim [20] 23, which includes locating said vertical flange between a vertical pair of said lengths of lumber.

New claims 22 to 28 have been added as follows:

22. A building component as claimed in claim 1, wherein said frame is rectangular and said building component includes metal corner reinforcements at corners of said rectangular frame, said metal corner reinforcements each comprising a box-shaped section and lateral and vertical flanges extending along said lengths of lumber from said box-shaped section, and lengths of lumber having ends in abutment with said box-shaped section.
23. A method as claimed in claim which includes installing at corners of said frame metal corner reinforcements each comprising a box-shaped section and lateral and vertical flanges, and abutting ends of said lengths of lumber against said box-shaped sections, with said flanges extending along said lengths of lumber.
24. In a combination in a building structure,
- a vertical length of lumber;
- a horizontal length of lumbar and
- a metal corner connector interconnecting said vertical and horizontal lengths;
- said corner connector comprising an intermediate section, at least one lateral flange projecting horizontally from said intermediate section and a vertical flange projecting upwardly from said intermediate section;

said vertical and horizontal lengths having ends in abutment with said intermediate sections and in the face-to-face contact with said vertical and the lateral flanges, respectively.

25. A combination as claimed in claim 22, wherein said intermediate section is box-shaped.
26. A combination as claimed in claim 22, wherein said lateral flange is one of a pair of lateral flanges projecting horizontally from opposite sides of said intermediate section.
27. A combination as claimed in claim 22, wherein said vertical length is one of a pair of vertical lengths of lumber, said vertical flange extends between said vertical lengths and said vertical lengths each having a lower end in abutment with said intermediate section.
28. A corner connector for use in building construction, comprising an intermediate section, at least one lateral flange projecting horizontally from said intermediate section and a vertical flange projecting upwardly from said intermediate section